

PUBLIC VERSION

EXHIBIT C

DEP000293

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

BELLSOUTH)	
TELECOMMUNICATIONS, LLC d/b/a)	
AT&T North Carolina and d/b/a AT&T)	
South Carolina,)	
)	
Complainant,)	
)	Proceeding No.: 20-293
v.)	Bureau ID No.: EB-20-MD-004
)	
DUKE ENERGY PROGRESS, LLC,)	
)	
Defendant.)	
)	

DECLARATION OF STEVEN D. BURLISON, P.E.

1. My name is Steven D. Burlison. I am currently employed by Duke Energy Business Services, LLC as Principal Engineer. I work in Duke Energy Corporation's Customer Delivery Equipment and Construction Standards group. I am the team lead for the group of engineers that focus on overhead lines and equipment for Duke Energy Corporation's operating companies, including Duke Energy Progress, LLC ("DEP"). Our responsibilities include, among other things (1) approval of material and equipment used to construct overhead distribution lines and (2) creation of construction specifications to comply with applicable codes and industry best practices.

2. I graduated from Tennessee Technological University in 1982 with a B.S. in Electrical Engineering and have been working in the electric utility industry in various capacities, including Distribution Standards at Progress Energy and Florida Power Corporation, since that time. I am a registered Professional Engineer in the states of Florida and Virginia.

3. I serve as principle on the National Fire Protection Association (NFPA) National Electrical Code (NEC) Code making panel 3 representing the Edison Electric Institute (EEI).

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NFPA is the organization that publishes the NEC and manages the proposed public changes through a code making process set on a three-year cycle. The NEC covers electrical installations on the customer's side of the service point (usually the meter base), and sets the foundation for electrical safety in residential, commercial, and industrial occupancies around the world. I also serve as alternate on IEEE National Electrical Safety Code (NESC) Code making subcommittee 2 representing EEI. IEEE is the organization that publishes the NESC and manages the proposed public changes through a code making process set on a five-year cycle. As stated in Section 010 of the NESC Code Book, "The purpose of the NESC is the practical safeguarding of persons and utility facilities during the installation, operation, and maintenance of electric supply and communication facilities, under specified conditions." I also serve on the Southeastern Electric Exchange NESC committee.

4. I am familiar with the joint use of utility structures and the physical requirement for clearances and strengths associated with multiple utilities on the same wood pole as defined by the NESC. The American National Standards Institute (ANSI) O5.1 provides Wood Pole Specifications and Dimensions used across the utility industry. ANSI O5.1 defines wood poles by length and class. Lengths come in 5-foot increments. Class defines the strength of the pole. The lower the class number, the stronger the pole (for example, a Class 5 pole is stronger than a Class 6 pole). Clearance requirements relating to the various types of equipment and cables dictate the length of pole required, and the loading presented by the equipment and cables supported by the pole dictate the strength of class required for each pole.

5. The October 20, 2000 joint use agreement between Carolina Power & Light Company (now DEP) and Bellsouth Telecommunications, Inc. (now AT&T) (the "Joint Use Agreement") defines "Standard Joint Use Poles" as "A 40-foot pole which meets the requirements

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of the Code for support and clearance of electric supply and communications conductors now or hereafter used by either party in the conduct of its business.” The agreement that preceded the Joint Use Agreement—the September 29, 1977 Agreement Covering Joint Use of Poles Between Carolina Power & Light Company and Southern Bell Telephone and Telegraph Company (the “1977 JUA”)—also identifies a 40-foot pole as the “standard joint use pole.” The 40-foot reference with respect to pole height describes the total length of the pole (including the portion that is ultimately set beneath the ground line for support). The reference to “the requirements of the Code for support and clearance of electric supply and communications conductors” refers to the NESC’s clearance and loading requirements for poles with electric and communications facilities attached.

6. NESC Rule 232 for “Vertical clearances of wires, conductors, cables, and equipment above ground, roadway, rail or water surfaces” sets the minimum clearance for “Insulated communication conductors and cables; messengers; overhead shield/surge-protection wires; effectively grounded guys; ungrounded portion of guys meeting Rules 215C2 and 279A1 exposed to 0 to 300V; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1” all at the same value for the type of surface crossed over. See NESC table 232-1. NESC Rule 235 establishes a 40” minimum distance requirement between any communication conductor and an electric utility’s lowest facility on the pole. This is what the NESC defines as the “Communication Worker Safety Zone”.

7. The purpose of the Communication Worker Safety Zone is to protect communications workers from energized electric facilities. Without the presence of a communication line on a DEP pole, there would be no need for the Communication Worker Safety Zone. Because AT&T was historically the first communications attacher on DEP’s poles, AT&T was the original cause of the need for the Communication Worker Safety Zone on DEP’s poles.

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8. The Communication Worker Safety Zone on DEP's poles serves no purpose in the provision of electric service. DEP does not need and does not use the Communication Worker Safety Zone on its own poles.

9. Though streetlights are occasionally mounted within the Communication Worker Safety Zone on DEP's poles as permitted by the NESC, the safety zone is not necessary for the proper installation of a streetlight. Streetlights can be, and often are, safely mounted within the electric supply space. In other words, if there is not a Communication Worker Safety Zone on a distribution pole, DEP can still safely install a streetlight on that pole.

10. DEP does not use the Communication Worker Safety Zone to install transformers. DEP has, in the past, in accordance with NESC Rule 238, allowed the grounded portion of a transformer to be within 30 inches of the uppermost communications conductor. However, even under this configuration, there remains a Communication Worker Safety Zone of 40 inches between DEP's lowest supply conductor and the uppermost communications conductor. DEP's current construction standards do not allow any portion of a transformer to extend below the lowest supply conductor into the Communication Worker Safety Zone.

11. The 1977 JUA allocated [REDACTED] of space on DEP poles to the "exclusive use" of AT&T. Therefore, DEP's lowest conductor (neutral meeting Rule 230E1) had to be [REDACTED] higher than necessary in order to accommodate AT&T's allocated space of [REDACTED] plus the 40" Communication Worker Safety Zone. This results in DEP's standard pole being 5 to 10 feet taller than necessary to install electric service facilities only. The communication conductors also create additional wind loading on the pole, resulting in the need for stronger (heavier class) poles than needed to provide electric service. Thus, if DEP and its predecessors had constructed the distribution pole network solely to accommodate DEP's electric distribution needs, virtually every

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pole would have needed to be replaced with a taller and stronger pole in order to accommodate AT&T.

12. At the time that the 1977 JUA was executed, Carolina Power & Light Company (now DEP) could have built its electric distribution system on poles 5 to 10 feet shorter than it did but for the need to accommodate AT&T's facilities under the Joint Use Agreement. In other words, where Carolina Power & Light Company installed 40-foot poles to meet the Joint Use Agreement's requirements, in the absence of the Joint Use Agreement, it could have installed 30 or 35-foot poles.

13. DEP has utilized a variety of electrical facility configurations over the years including delta, horizontal and vertical; however, the configuration does not change the location of the communication space on the pole or the location of the Communication Worker Safety Zone. Regardless of the construction type, DEP would have constructed its system on poles that were 5-10 feet shorter if AT&T were not present.

14. Today, as an example, under DEP's typical horizontal three-phase construction, DEP requires 96 inches (8') from the pole top to the neutral. The top of a 40-foot pole set 6' in the ground is 34' above ground. That places the neutral at 26'. At mid-span, a typical 280' span will have a sag of 53" (4.42'), and the ground clearance is 21'7" (21.58'). This would meet the clearance requirement of the North Carolina Department of Transportation (D.O.T.) of 18' above D.O.T. roads. Further, the top of a 35-foot pole set 6' in the ground would be 29' above ground. That would place the neutral at 21'. At mid-span with a typical sag of 53" (4.42'), the ground clearance would be 16'7" (16.58'). This would meet the clearance requirements of non-D.O.T. roads, driveways, parking lots and alleys of 15'6" (15.5') as stated in Rule 232 of the NESC.

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15. However, today, for example, if AT&T is to be installed on a pole which also has to meet the North Carolina D.O.T clearance requirement of 18' in mid-span while maintaining a minimum of 40" from the DEP neutral, then the lowest communication cable will have to be installed at [REDACTED] at the pole assuming the AT&T cable does not have more sag than the neutral. I understand from Scott Freeburn that DEP's field data indicates AT&T constructively occupies [REDACTED] of space on DEP poles on average. However, even assuming, conservatively, that AT&T occupies only [REDACTED] of space (per the 1977 Agreement that preceded the current Joint Use Agreement), in order to provide AT&T with [REDACTED] of space, the neutral would then have to be installed at a minimum of [REDACTED] + [REDACTED] + 40" (Communication Worker Safety Zone) or [REDACTED]. The top of the pole would then need to be [REDACTED] + 8" or [REDACTED] out of the ground. This would require a 45' pole, given the proper setting depth. And if the area were non-D.O.T., the lowest AT&T cable would have to be attached to the pole at [REDACTED] + [REDACTED] or [REDACTED]. Giving AT&T their [REDACTED] of space that would put the neutral at [REDACTED] and the top of the pole would need to be at [REDACTED]. Given the required pole setting depths, this will then require a 45' pole. Thus, today, assuming DEP's typical horizontal construction, DEP would require 35 to 40-foot poles to accommodate DEP's facilities only; however, because of the need to accommodate AT&T's facilities under the Joint Use Agreement, DEP is required to set a 45-foot pole.


16. The scenarios set forth in paragraphs 14 and 15 above are, as stated, examples. Mid-span clearance requirements vary under NESC Section 232 depending on the nature of the area located at mid-span (e.g., pedestrian crossing, non-D.O.T. road, parking lot, driveway). Further, the amount of sag also depends on the span length between the two poles at issue.

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17. AT&T is almost always the lowermost wireline attaching entity on DEP's poles. If there are other third-party attachments beneath AT&T, they are not wireline attachments; they are communications cabinets and other equipment mounted flush with the pole below the communications space. Occupying the lowest position on the pole gives AT&T ease of access to its facilities, as there is no need to work through the lines of other attaching entities. This is true whether the AT&T worker is climbing the pole or working from a bucket truck. Further, so long as AT&T complies with the NESC's clearance over roadway requirements, which have been determined to be safe by industry experts, the risk of its lines being snagged by vehicles should be de minimis.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the facts set forth in this declaration are true and correct to the best of my knowledge, information, and belief.

Executed on the 13 day of November, 2020.


Steven D. Burlison, P.E.

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EXHIBIT D

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

BELLSOUTH)	
TELECOMMUNICATIONS, LLC d/b/a)	
AT&T North Carolina and d/b/a AT&T)	
South Carolina,)	
)	
Complainant,)	
)	Proceeding No.: 20-293
v.)	Bureau ID No.: EB-20-MD-004
)	
DUKE ENERGY PROGRESS, LLC,)	
)	
Defendant.)	
)	

DECLARATION OF DANA M. HARRINGTON

1. My name is Dana M. Harrington. I am a Rates and Regulatory Strategy Manager employed by Duke Energy Carolinas, LLC (“DEC”) but appearing on behalf of Duke Energy Progress, LLC (“DEP”). My primary job duties currently include serving as the DEP annual fuel rate preparer and fuel witness who testifies before the North Carolina Utilities Commission (“NCUC”) and the Public Service Commission of South Carolina (“PSCSC”). I have held this position since March 15, 2019. I have determined rates pertaining to DEP fuel and fuel-related cost recovery and filed testimony in two North Carolina (“NC”) annual fuel proceedings as well as two South Carolina (“SC”) annual fuel proceedings.

2. I received a Bachelor of Arts degree in Psychology with Honors from the University of North Carolina at Chapel Hill and I am a Certified Public Accountant licensed in the State of North Carolina. I began my accounting career in 2005 with Greer and Walker, LLC as a Tax Accountant and later a Staff Auditor. From 2007 until 2010, I was an Accounting Analyst with DEC in the Finance organization. In 2010, I joined the Rates Department as a Lead Rates Analyst

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where I spent eight years before being promoted to the position of Rates and Regulatory Strategy Manager.

3. As Lead Rates Analyst, I primarily served DEC and DEP jurisdictional functions, including the calculation of their annual cable television and telecom pole rates for the billing years of 2015 – 2018. I also prepared the annual pole attachment rate calculations for Duke Energy Indiana, LLC, Duke Energy Kentucky, Inc., and Duke Energy Ohio, Inc. for the same billing years.

4. The facts set forth in this declaration are based on my personal knowledge or knowledge made available to me as preparer of the pole attachment rates as a Lead Rates Analyst with DEC.

5. DEP's annual pole attachment rate methodology follows FCC guidance and customizes the data used in the calculation to align with the period in which the rent is utilized by the attacher, as described below.

6. The annual pole attachment rate calculations for cable and telecom providers attaching to DEP's distribution poles are updated each year in the spring primarily based on the availability of the FERC Form 1 data for the year ending December 31 of the preceding calendar year. In addition to annual FERC Form 1 data, the pole rental rate calculation includes: DEP's recorded count of unitized poles as of the preceding calendar year end, current depreciation rates derived from the most recent depreciation studies, current weighted average cost of capital rates as approved by the NCUC and PSCSC, and the pole investment in rate base as reported in the annual NC Retail Cost of Service Study as of the preceding calendar year end for the purpose of weighting NC and SC shares within a blended weighted average cost of capital.

7. Under ideal circumstances, there would be no lag between the age of the data used in the pole attachment rate calculation and the rental period to which the rate is applied. Attaching

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entities would be billed for calendar year pole rent on January 1 each year for the prospective year based on data measured as of the prior calendar year end. This best-case scenario would require that the data needed for the annual rate calculation be quantified and available for use in calculating the rate immediately at year end, which is not operationally feasible. DEP's FERC Form 1 is due to the Federal Energy Regulatory Commission each subsequent Spring following a calendar year end.

8. In order to mitigate the lag between the age of data used in the rate calculation and the rental period over which the rate is applied, when DEP has knowledge of a mid-year depreciation rate change or a mid-year state commission-approved weighted average cost of capital ("WACC") change (due to a recent base rate case ruling), DEP prospectively prorates that parameter by the effective date of the new rate as it applies to the initial calendar year in which the new rate is reflected in pole rental billings and holds it constant for the billing period. For example, a depreciation rate change effective on July 1, 2019 would be prorated as six months on the former rate plus six months on the new rate within the 2019 pole rental rate calculation although other data within the same calculation is reliant upon FERC Form 1 data as of calendar year end 2018. DEP deems this approach to prorating depreciation rates and WACC rates, when known and measurable at the time of the rate calculation, to more closely align rental revenues with the rental period experienced by the attaching entity than would an unprorated factor. Prorating a mid-year depreciation rate change or mid-year WACC change is further discussed in this declaration below.

9. DEP's proration of the WACC rates for billing years 2017, 2018, and 2019 is provided on Exhibit D-1. This exhibit shows a revised blended retail WACC for billing year 2019 from what was previously utilized in the 2019 rate calculation. The details of the previous calculation are provided here as Exhibit D-2. Exhibit D-1 includes two updates to the 2019

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calculation: (1) update to the WACC inputs for NC and SC from the prior year components, and (2) itemization of pole assets in rate base between NC and SC as of the 2018 NC Retail Cost of Service Study, which was unavailable at the time of the 2019 rate calculation.

10. The rate methodology for billing years 2017, 2018, and 2019 is shown on Exhibit D-3. The actual rates applicable to cable and telecom companies based on one-foot of usable space occupied (as well as the annual pole cost from which those rates are derived) are set forth by way of summary in the chart below:

	Reference	2017	2018	2019
Net Cost of a Bare Pole	Exh D-3	\$ [REDACTED]	[REDACTED]	\$ [REDACTED]
x Carrying Charge Rate	Exh D-3	[REDACTED] %	[REDACTED] %	[REDACTED] %
Annual Pole Cost	calculated	\$ [REDACTED]	\$ [REDACTED]	[REDACTED]
Cable Rate	Exh D-3	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
New Telecom Rate ¹	Exh D-3	\$ [REDACTED]	\$ [REDACTED]	[REDACTED]

11. There are five differences between DEP's methodology compared to AT&T's methodology as filed by AT&T witness Daniel P. Rhinehart and labeled as Exhibit R-1 to AT&T's complaint. These five differences are identified on Exhibit D-3 as Item Nos. (1) through (5), and are described as follows:

- [REDACTED]
- [REDACTED]

¹ The new telecom rate calculations shown in this chart presume an average of 5 attaching entities.

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- [REDACTED]
- **Item (3)** : DEP prorates mid-year depreciation rate changes, aligned with the initial calendar year in which the rates are reflected in billings and holds it constant for the billing period; whereas, AT&T uses the depreciation rate as of December 31 of the preceding calendar year end and utilizes that unprorated depreciation rate for the prospective billing period;
 - **Item (4)** : DEP prorates mid-year WACC changes, aligned with the initial calendar year in which rates are reflected in billings and holds it constant for the billing period; whereas, AT&T uses the WACC rate for NC and SC as of December 31 of the preceding calendar year end and utilizes those unprorated WACC rates for the prospective billing period; and
 - **Item (5)** : DEP relies upon the pole value in rate base as of the preceding calendar year end as reported in the annual NC Retail Cost of Service Study to weight NC and SC shares within a blended WACC for use in the pole rate calculation. AT&T also calculates a blended WACC but bases each state's respective share on the location of the DEP poles to which AT&T is attached.

12. **Explanation of Item (1):** DEP and AT&T agree on the annual balances to be used for gross investments in FERC accounts 364, 365, and 369 as well as the annual distribution plant depreciation reserve ratios relied upon to determine investments net of depreciation; however, AT&T and DEP do not agree on [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

The difference in the basis selected for cost allocation affects each component of pole carrying charge except for the cost of capital. These impacts are presented on Exhibits D-4, D-5, and D-6 in the column labeled Item (1) for the billing years of 2017, 2018, and 2019, respectively.

13. **Explanation of Item (2):** DEP and AT&T agree on the gross ADIT balances in FERC accounts 190, 281, 282, and 283 used to determine ADIT respective to gross pole investments; [REDACTED]

[REDACTED]

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14. **Explanation of Items (3) and (4):** Items (3) and (4) reflect DEP's position on prorating mid-year depreciation rate changes and mid-year state commission-approved WACC changes. This position has been explained in paragraphs 8 and 9 of this declaration. The impact of prorating mid-year depreciation rate changes is presented on Exhibits D-4, D-5, and D-6, in the column labeled Item (3). The impact of prorating mid-year WACC changes is presented on Exhibits D-4, D-5, and D-6, in the column labeled Item (4).

15. **Explanation of Item (5):** DEP aims to adhere to FCC guidance regarding the annual pole rate calculation. It is DEP's intent to prepare an accurate, objective, and uniform rate applicable to all cable and telecom attaching entities within each jurisdiction. Therefore where system pole assets reside in multiples states (NC and SC), DEP relies upon the value of pole investments in rate base as of the preceding calendar year end as reported in the annual NC Retail Cost of Service Study to weight NC and SC shares within a blended WACC. DEP deems this approach ideal to preserve reporting simplicity and protect against rate disparities. AT&T, on the other hand, weighs each state's respective share within a blended WACC exclusively on the location of the DEP poles to which AT&T is attached. As seen on Exhibits D-4, D-5, and D-6, in the column labeled Item (5), the impact of this difference in methodology has a negligible impact on the resulting pole rental rate.

16. I am familiar with the FCC's "old" telecom rate (a/k/a the pre-existing telecom rate). DEP's joint use department asked that I calculate the old telecom rate assuming [REDACTED] feet of usable space occupied and [REDACTED] average attaching entities. For years 2017-2019, this calculation would yield the following rates:

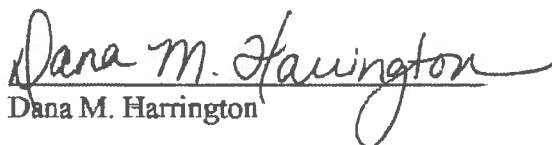
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Old Telecom Rate	Reference	2017	2018	2019
Unusable Space (in feet)	A	24	24	24
Number of Attaching Entities	B	██████	██████	██████
2/3 Application to Unusable Space	C	0.667	0.667	0.667
Space Occupied (in feet)	D	██████	██████	██████
Pole Height (in feet)	E	37.5	37.5	37.5
Space Factor (calculated)	$F = (((A / B) * C) + D) / E$	██████%	██████%	██████%
Net Cost of a Bare Pole (Exh D-3)	G	\$ ██████	\$ ██████	\$ ██████
Carrying Charge Rate (Exh D-3)	H	██████%	██████%	██████%
Old Telecom Rate (calculated)	$I = F * G * H$	\$ ██████	\$ ██████	\$ ██████

17. I understand from my review of AT&T's complaint that one of the issues in the dispute between DEP and AT&T is who should bear the cost of the communication worker safety zone (also called the "safety space") on DEP's poles. If this space is not useful or necessary to the provision of electric service (an issue on which I express no opinion) then it should not be allocated to DEP from a ratemaking perspective. From a cost-of-service ratemaking perspective, the appropriate question to ask is whether the cost is of benefit to the class of customers who will be required to pay for it. If the answer to this question with respect to the safety space is "no," then this is not a cost that DEP and its electric ratepayers should be required to bear. No sound ratemaking rationale would support allocating such a cost to DEP and its electric ratepayers.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the facts set forth in this declaration are true and correct to the best of my knowledge, information, and belief.

Executed on the 12th day of November, 2020.


Dana M. Harrington

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EXHIBIT D-1
(Confidential – Withheld from Public Version)

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EXHIBIT D-2
(Confidential – Withheld from Public Version)

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EXHIBIT D-3
(Confidential – Withheld from Public Version)

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EXHIBIT D-4
(Confidential – Withheld from Public Version)

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EXHIBIT D-5
(Confidential – Withheld from Public Version)

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EXHIBIT D-6
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EXHIBIT E

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**AT&T North Carolina And AT&T South Carolina v. Duke Energy Progress
Pole Attachment Complaint**

**Declaration Of
Kenneth P. Metcalfe
The Kenrich Group LLC,
An HKA Company
1919 M Street, NW
Suite 620
Washington, DC 20036**

November 12, 2020

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I. Introduction

1. I, Kenneth P. Metcalfe, was retained by Langley & Bromberg LLC to determine whether AT&T's Joint Use Agreement ("JUA") with Duke Energy Progress provides AT&T any unique advantages as compared to Duke Energy Progress's pole license agreements with Cable Television Companies ("CATVs") and Competitive Local Exchange Carriers ("CLECs"), and if so, to assess and/or value selected advantages; and to evaluate whether the cost sharing arrangements with AT&T under the JUA were just and reasonable, given those advantages.

2. I am Co-Chief Executive Officer of The Kenrich Group LLC ("Kenrich"), an HKA Company ("HKA"), a Certified Public Accountant and a Certified Valuation Analyst. For over 38 years, I have provided consulting expertise in the areas of accounting, finance, business management, financial decision making, economic causation, and economic damages analyses. My experience includes matters both in dispute and not in dispute, and encompasses analyzing, documenting, teaching, and testifying on the proper methods to determine economic damages, as well as evaluating economic analyses and results. I have consulted for and provided expert consulting and/or expert witness testimony on behalf of numerous entities, including electric and other utilities, in various matters, including the proper measurement of economic damages, cost quantification, prudence reviews, regulatory requirements and accounting, alternative vendor and project selection, and nuclear decommissioning support. I have provided testimony in numerous U.S. federal and state courts, in U.S and international arbitration, and to state public utility commissions. See Appendix 1 for my resume.

3. Kenrich is now part of HKA, an international consulting firm of accounting, financial, economic, and engineering professionals with significant experience and expertise with the public utility industry, government contracting, construction, intellectual property, and other matters. HKA has over 1,000 consultants in 45 offices across the globe.

4. My opinions are based on an independent professional examination, including my and my team's review of documents provided by Duke Energy Progress, as well as

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discussions with knowledgeable Duke Energy Corporation personnel, including Mr. Scott Freeburn (Joint Use Manager); Mr. Jeremy Gibson (Supervisor Joint Use); and Mr. Andy Russell (Lead Engineer). The opinions contained in this declaration have been prepared on the basis of the information and assumptions set forth in this declaration. My opinions are based on the information provided and reviewed to-date and are subject to change if new information becomes available. I reserve the right to supplement and amend my opinions based on additional evidence provided in this matter.

II. Duke Energy Progress And AT&T Joint Use Agreement, And Historical Context

5. The term “joint use” refers to the shared use of the poles owned by electric and telephone utilities. The telephone companies, now referred to as incumbent local exchange carriers (“ILECs”), and electric utilities began sharing poles in the early 1900s to minimize overall costs (i.e., using one pole instead of two to support both the telephone company’s and the electric utility’s overhead facilities).

6. JUAs first came into existence in the early 20th century and continue today to govern the terms for pole ownership and cost sharing arrangements between electric utilities and ILECs. The overall approach was such that electric utilities and ILECs would each own “joint use” poles in approximately the same proportion as their respective space requirements (with equal sharing of the costs of the “unallocated” portions on the pole) on a single pole. That way, assuming total pole ownership “parity” was maintained under the JUA, no significant exchange of net annual payments would be necessary between the parties.

7. Duke Energy Progress and AT&T most recently voluntarily entered into a JUA in October 2000.¹ This agreement amended and restated a prior joint use agreement from 1977.² The JUA is premised upon an “equitable apportionment of the benefits to be derived from the continuation of Joint Use of poles,” such that if Duke Energy Progress owns █% of

¹ See “Amended and Restated Agreement Covering Joint Use of Poles,” dated October 20, 2000 (“JUA”), at ATT00091.

² See “Agreement Covering Joint Use Poles” dated September 29, 1977.

the jointly used network and AT&T owns █% of the jointly used network, then no net rentals exchange hands between the parties.^{3,4}

8. I understand AT&T is now taking a position that its cost sharing obligations under the JUA are not just and reasonable. Further, AT&T believes it should be entitled to pay the same pole attachment rates that CLECs and CATVs pay for access to Duke Energy Progress poles, which rates are limited under Federal Communications Commission ("FCC") regulations.⁵

III. Foundational Considerations

A. AT&T Appears To Ignore A Fundamental Difference Between The ILECs And The CLECs And CATVs

9. I understand that FCC regulations require a utility to "provide a cable television system or any *telecommunications carrier* with nondiscriminatory access to any pole" that the utility owns.⁶ [emphasis added] I further understand that the FCC explicitly excludes ILECs from the definition of "telecommunications carrier," specifically indicating that the term "does not include any incumbent local exchange carrier."⁷ In other words, Duke Energy Progress is required by the FCC to provide mandatory access to CLECs and CATVs, but is not required to provide mandatory access to AT&T, in those areas where AT&T is the ILEC. This represents a fundamental difference between CLECs or CATVs, as compared to ILECs. Without a contractual obligation for a utility to provide access, such as the terms in the JUA, ILECs are at a material disadvantage compared to CLECs and CATVs.⁸

10. I further understand that, as part of negotiating the cost sharing provisions and other terms under the JUA, Duke Energy Progress and AT&T agreed to incorporate a

³ See JUA at ATT00093, See JUA, Article XIII at ATT00102.

⁴ See Exhibit E-5B.1

⁵ See Complaint dated September 1, 2020 p. 1.

⁶ See 47 U.S.C. § 224(f)(1).

⁷ See 47 U.S.C. § 224(a)(5).

⁸ Similarly, I understand that Duke Energy Progress would not have mandatory access rights to AT&T's poles, absent the JUA.

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provision precluding, in perpetuity, either party from removing from its own poles any existing attachments belonging to the other party (i.e., even if the JUA itself was terminated). This provision states that at any time, either party can terminate the JUA with respect to the right to attach to *additional* joint use poles, however, “[a]ny such termination of the right to make additional Attachments shall not, however, abrogate or terminate the right of either party to maintain the existing Attachments on the poles of the other and all such existing Attachments shall continue pursuant to and in accordance with the terms of this Agreement.”⁹ In other words, both parties to the JUA effectively have mandatory access to each other’s poles, in perpetuity (at least on all of those joint use poles to which both have already attached prior to any termination). This perpetual license provision provides a very significant benefit to AT&T by effectively providing mandatory access to Duke Energy Progress’s poles by contract, which access I understand it lacks by law. As a result of this perpetual license provision in the JUA, AT&T can avoid the costs it would otherwise incur to build out its own system of poles in the event of a termination.

B. AT&T Appears To Now Take A Position That One Of The Most Significant Benefits Arising From The JUA Is Now Irrelevant

11. I understand that, as an electric utility regulated by the South Carolina Public Service Commission and North Carolina Utilities Commission, Duke Energy Progress has a responsibility to incur costs prudently. My understanding is that, absent the JUA, Duke Energy Progress would have installed poles only tall enough to accommodate Duke Energy Progress’s own electric supply facilities.¹⁰ Further, it was obligated to do so; otherwise the incremental costs associated with longer than needed poles would have been at risk of being deemed by the state utility commissions as “imprudent,” and therefore not recoverable from Duke Energy Progress’s ratepayers (electricity customers). In the absence of a joint use agreement, had AT&T later requested access to Duke Energy Progress’s poles, AT&T would have had to pay for the cost of replacing Duke Energy Progress’s existing poles with taller/stronger poles that would then be capable of accommodating AT&T’s attachments. Of

⁹ See JUA, Article XVII at ATT00104.

¹⁰ See declarations of Mr. Steve Burlison and Mr. Scott Freeburn.

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course, this pole replacement cost would far exceed the shared cost of installing taller/stronger poles in the first place, which points to the main economic purpose of the JUA, i.e., to minimize total costs for both parties.

IV. Quantification Of Selected ILEC Benefits

A. Introduction To Analyses

12. I understand that, per the FCC's rule, Duke Energy Progress must provide "clear and convincing evidence that the incumbent local exchange carrier receives benefits under its pole attachment agreement with a utility that materially advantages the incumbent local exchange carrier over other telecommunications carriers or cable television systems providing telecommunications services on the same poles."¹¹ First, as discussed above, two of the most significant benefits received by AT&T include (1) the perpetual license provision, as well as (2) AT&T's avoided costs to replace Duke Energy Progress's poles with taller poles to accommodate AT&T's attachments. I also identify certain additional "operational" benefits to AT&T that arise from the JUA, which are not available to CLECs and/or CATVs under their respective license agreements with Duke Energy Progress.

13. In the analyses described below, I quantify certain benefits to AT&T (as well as the reciprocal benefits to Duke Energy Progress). I also calculate the "net benefit" received by AT&T, which is equal to the benefit to AT&T, less the reciprocal benefit to Duke Energy Progress.

B. The Use Of Cost Annualization Rates

14. My analyses include the quantification of AT&T benefits that are one-time in nature (e.g., avoided "system replacement"¹²), as well as AT&T benefits that recur from year-to-year (e.g., AT&T's benefits from the space provided to AT&T on Duke Energy

¹¹ See 47 CFR § 1.1413.

¹² For example, both AT&T and Duke Energy Progress benefit from the perpetual license provision in the JUA which precludes either party from removing the other party's attachments even if the JUA is terminated.

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Progress poles per the JUA).¹³ As part of my analyses, I also convert one-time benefits into an annualized rate per pole. By quantifying the benefits in terms of an annualized rate per pole, one-time benefits can be compared to annual, per pole rates, such as the rates (identified in the JUA) and the FCC's telecom and cable rates.

15. When calculating Duke Energy Progress's annualized benefits, I use Duke Energy Progress's cost of capital as an annualization rate.¹⁴ The cost of capital is the rate of return required to commit capital to an investment.¹⁵ For example, Duke Energy Progress's cost of capital for 2019 is 7.09%.¹⁶ It follows that if Duke Energy Progress were to receive a one-time benefit of \$100 in 2019, that benefit can be expressed as an annual amount. A \$100 one-time benefit is equivalent to an annualized benefit of \$7.09 per year in perpetuity.¹⁷

16. Mr. Daniel Rhinehart's affidavit included AT&T's "cost of capital" from 2017 through 2019, which ranged from 10.375% to 10.875%.¹⁸ This is significantly higher than

¹³ See JUA, Article III at ATT00095.

¹⁴ Cost of capital is sometimes referred to as Return on Investment or ROI in the documents I reviewed in this case. Duke Energy Progress's cost of capital for the years 2017 through 2019 is included in the declaration of Ms. Dana Harrington.

¹⁵ See *Litigation Services Handbook*, 5th edition, at 9.2. "The cost of capital is the rate of return required by investors (both bondholders and equity holders) for them to supply capital. One can view it as an opportunity cost because the rate must equal or exceed what the investor could obtain from a similar investment of comparable risk."

¹⁶ See declaration of Ms. Dana Harrington.

¹⁷ See *The Cost of Capital*, by Eva Porras, at p. 131, describing the use of the cost of capital as a hurdle rate. "The 'hurdle rate' is the minimum acceptable rate of return from an investment project. For projects of average risk, it is usually equal to the firm's cost of capital."

This concept is analogous to a perpetuity, which is a type of annuity in which fixed annual amounts are received by the annuity-holder every year in perpetuity. The present value of a perpetuity is equal to the fixed annual amount divided by the interest rate. Using our earlier example with an interest rate of 7.09%, the present value of receiving \$7.09 every year in perpetuity is equal to \$100 (i.e., $\$7.09 / 7.09\% = \100). See *Financial Management: Theory & Practice*, 12th edition, at 2.11.

Another example of this concept relates to formulas used as part of business valuations. Specifically, the value of a business is sometimes calculated as the annual free cash flows divided by the firm's cost of capital. If the firm's cost of capital is 7.09% and annual cash flows are expected to be fixed at \$70,900, this formula calculates the value of the company at \$1 million (i.e., $\$70,900 / 7.09\% = \1 million). See *Litigation Services Handbook*, 5th edition, at 10.12 – 10.13. See also *Measuring Commercial Damages* at pp. 230 – 231.

¹⁸ See Rhinehart affidavit, Exhibit R-3 at ATT00018-19. Mr. Rhinehart indicated he used the FCC default cost of capital except when net plant pole costs are negative.

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Duke Energy Progress's cost of capital, which ranged from 7.09% to 7.49% over a similar time period.¹⁹ The use of a higher cost of capital as an annualization rate will result in a higher annualized benefit. Therefore, as a conservatism for the purposes of my analyses, I have used Duke Energy Progress's significantly lower cost of capital when calculating AT&T's annualized benefits.

C. Benefit Of The Bargain

17. As noted above, the JUA contains a perpetual license provision that provides significant benefits to AT&T, as it guarantees AT&T can maintain access to Duke Energy Progress's poles even after a termination of the JUA. In contrast, typical CLEC and CATV license agreements state that upon termination by either party, that a CLEC or CATV must remove its attachments from Duke Energy Progress's poles, often within a specified period of time.²⁰ AT&T therefore receives a unique and fundamental benefit as a result of the JUA.

i. Avoided System Replacement Costs

18. If the perpetual license provision of the JUA did not exist, AT&T would have to remove its attachments from Duke Energy Progress's poles in the event of termination by either party (and Duke Energy Progress would have to remove its attachments from AT&T's poles). To quantify this benefit, I have calculated the costs AT&T would incur to replace the network AT&T currently has in place on the joint use poles owned by Duke Energy Progress, as well as the costs that Duke Energy Progress would incur to replace the network Duke Energy Progress currently has in place on joint use poles owned by AT&T.²¹

19. Mr. Freeburn provided me with the estimated costs for Duke Energy Progress to procure and install poles of different types and sizes.²² Based on discussions with Mr. Freeburn, I assumed AT&T would install a 30-foot Class 6 pole to build out its own network,

¹⁹ See declaration of Ms. Dana Harrington.

²⁰ See example CLEC license agreement, Section 17 at ATT00136.

²¹ As a conservatism, I do not include the costs to store poles in the avoided system replacement cost analysis.

²² I understand that Mr. Freeburn used Duke Energy Progress's estimating system, when preparing these estimates.

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rather than the 40-foot Class 5 “standard joint use pole,” per the JUA, that accommodates both AT&T and Duke Energy Progress. I used the estimated cost provided by Mr. Freeburn for a 30-foot Class 6 pole as the basis for a non-JUA pole owned by AT&T.

20. Under these assumptions, the estimated annualized cost to AT&T to purchase and install 148,064 poles (i.e., the number of joint use poles owned by Duke Energy Progress to which AT&T is attached to as of December 2019) is \$ [REDACTED] or \$ [REDACTED] per pole.^{23, 24} After accounting for the reciprocal benefits to Duke Energy Progress for the 30,598 poles owned by AT&T, the annualized net benefit to AT&T is \$ [REDACTED], or \$ [REDACTED] per pole.²⁵

21. Again, this is a significant and fundamental contractual benefit to AT&T associated with the JUA. In contrast, CLEC and CATV license agreements do not provide any such benefit.

ii. Avoided Contingency Costs

22. While of lesser magnitude than a full system replacement, there are other benefits which stem from the perpetual license provision. As a result of the risk of termination, but for the JUA, I understand AT&T may need to incur costs to be “ready” to build-out, if necessary, its own network of poles (or pursue some alternative means for providing service). Again, if AT&T had the same termination provision as typical CLEC and CATV agreements, then AT&T would need to be prepared to install its own network of poles within a short period of time.²⁶

23. I understand from Mr. Freeburn that if the perpetual license provision did not exist in the JUA, Duke Energy Progress would need to procure and hold in inventory the

²³ See Exhibit E-2.

²⁴ The annualized estimated cost is derived from the one-time cost to replace AT&T’s pole network plus applicable carrying charges. The cost estimate includes labor, material, and equipment costs to install new poles and transfer AT&T’s equipment and wires from the Duke Energy Progress-owned pole to the newly installed pole.

²⁵ See Exhibit E-2.

²⁶ CLEC and CATV license agreements typically provide for a relatively short period to remove attachments upon termination (e.g., 60 to 120 days).

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number of joint use poles currently owned by AT&T. This would include purchasing land and equipment necessary to store the poles in inventory. Given the current levels of respective pole ownership between the parties, AT&T would need to procure nearly 5 times the number of poles as Duke Energy Progress within a short period of time.²⁷ The manufacturing capacity of a pole supplier further supports the necessity of holding poles in inventory. I understand Duke Energy Progress's pole supplier can produce only approximately [REDACTED] poles per [REDACTED], and it therefore would be impossible to manufacture 148,064 poles within a short period of time.²⁸ Without the perpetual license provision of the JUA, AT&T would be required to hold 148,064 poles in inventory, which is estimated to cost \$[REDACTED] per year, or \$[REDACTED] per pole per year, based on the inputs provided by Mr. Freeburn.²⁹

24. After accounting for the reciprocal benefit of the perpetual license that Duke Energy Progress receives from AT&T for the poles AT&T owns, AT&T's annualized net benefit is \$[REDACTED], or \$[REDACTED] per pole.³⁰ My quantification of the net benefit to AT&T credits AT&T's benefit with the cost Duke Energy Progress would incur to hold 30,598 poles in inventory.

D. Avoided Inspection, Permitting, And Make-Ready Costs³¹

25. Per the terms of the JUA, I understand that AT&T is not required to and does not pay inspection or permitting costs when attaching to a JUA pole. In fact, AT&T has immediate access to all JUA poles and does not need any prior approval from Duke Energy Progress. Also, AT&T almost never paid make-ready costs at the initial point of access, and only pays make-ready costs in relatively rare situations even for modifications after initial

²⁷ 148,064 poles / 30,598 poles = 4.84.

²⁸ Per discussions with Mr. Freeburn.

²⁹ See Exhibit E-3.

³⁰ See Exhibit E-3.

³¹ Make-ready costs are generally associated with the work performed to accommodate new attachments or other modifications to an existing pole. Replacement with a taller and/or stronger pole may be required to accommodate new attachments.

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access.³² In contrast, CLECs and CATVs pay permitting and inspection costs for all of their pole attachments, as well as pole modification costs whenever necessary.³³

26. When CLECs and CATVs seek to attach to JUA poles, I understand that Duke Energy Progress charges fees to cover inspection and permitting costs. Mr. Freeburn explained that inspections are performed before installing attachments (i.e., “pre-inspections”) to determine whether there is sufficient available pole space, if any of the existing attachments will need to be moved or modified, or if the existing pole needs to be replaced with a taller or stronger pole to accommodate the new attachment. A structural analysis is also performed on certain poles before installing attachments.³⁴ I further understand through discussions with Mr. Freeburn that CLECs and CATVs pay for another inspection performed by the pole owner following the installation of any new attachments by a CLEC or CATV (“post-inspections”). The purpose of the post-inspection is to confirm the newly installed attachment actually conforms with the necessary requirements.³⁵ Additionally, Duke Energy Progress charges an application fee to CLECs and CATVs to cover Duke Energy Progress’s administrative costs associated with the inspections and make-ready modifications, and I understand from Mr. Freeburn that a single application covers an average of 12 poles.³⁶

27. In accordance with the JUA, I understand that AT&T is not assessed any of the aforementioned inspection and permitting-related fees and has thus avoided a total of \$[REDACTED] per year, or \$[REDACTED] per pole for all inspection and application fees.³⁷ After

³² Per discussions with Mr. Freeburn.

³³ See example CLEC license agreement, Section 7.1 at ATT00129.

³⁴ Per discussions with Mr. Freeburn, structural analyses are performed on selected representative poles within a particular group of poles, and that on average one pole out every 10 is selected. See also example CLEC license agreement, Section 5 at ATT00125-7.

³⁵ Per discussions with Mr. Freeburn.

³⁶ Per discussions with Mr. Freeburn.

³⁷ See Exhibit E-4.2.

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accounting for reciprocal benefits to Duke Energy Progress, AT&T's annualized net benefit is \$ [REDACTED], or \$ [REDACTED] per pole.³⁸

28. Mr. Freeburn explained that, in addition to the above-identified fees, CLECs and CATVs are charged for the costs to perform physical modifications of a pole (e.g., the relocation of existing pole attachments), which are often required to accommodate the CLEC or CATV attachment.³⁹ Per their respective license agreements, I understand that CLECs and CATVs are responsible for the cost of any modifications performed by Duke Energy Progress.⁴⁰

29. In contrast to CLECs and CATVs, I understand that under the JUA, AT&T is permitted to use pole space on any joint use pole "so long as such use does not unreasonably interfere with the use being made by the other party".⁴¹ Therefore, AT&T would only pay any costs to Duke Energy Progress to modify joint use poles in relatively rare and unusual circumstances. One example is "[i]f the existing pole is adequate to support the existing Attachments of both parties and the Licensee requires additional height."^{42, 43}

30. When there is insufficient space or load capacity on an existing JUA pole to accommodate another attacher, the CLEC or CATV must cover the cost of replacing the existing pole with a new taller/stronger pole. Per Mr. Freeburn, without the JUA, Duke Energy Progress would have built a network of poles that was only tall/strong enough to accommodate its own electric supply facilities, which means AT&T would have been required to pay for pole replacement costs for virtually every JUA pole currently owned by

³⁸ See Exhibit E-4.2.

³⁹ Per discussions with Mr. Freeburn.

⁴⁰ See example CLEC license agreement, Section 10 at ATT00130-1.

⁴¹ See JUA, Article III at ATT00095.

⁴² When AT&T requires physical modifications to a pole, it is responsible for moving its own equipment; however, per the JUA, AT&T is not charged by Duke Energy Progress for other work required on the pole because of AT&T's requested change. AT&T may be required to pay a third-party to rearrange CLEC or CATV attachments. See JUA, Article VII at ATT00097.

⁴³ For purposes of my analysis, I have not quantified the net benefit to AT&T of avoided make-ready costs associated with non-replacement modifications, such as rearranging AT&T and DEP attachments on a pole.

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Duke Energy Progress in order to obtain access.⁴⁴ In 2019, Duke Energy Progress paid approximately \$ [REDACTED] per pole to replace its own poles throughout its JUA pole network, which I understand would be similar to the cost that a CLEC or CATV would be required to pay Duke Energy Progress for a pole replacement.⁴⁵ The annualized avoided make-ready pole replacement costs by AT&T due to the JUA totals \$ [REDACTED], or \$ [REDACTED] per pole.⁴⁶ After accounting for reciprocal benefits to Duke Energy Progress, AT&T's annualized net benefit is \$ [REDACTED], or \$ [REDACTED] per pole.^{47,48}

31. As mentioned above, AT&T pays make-ready costs when AT&T needs additional space on an existing JUA pole is not available.⁴⁹ I understand AT&T is seldom required to pay make-ready costs. The costs that AT&T pays for make-ready are summarized in Exhibit B to the JUA. I understand from Mr. Freeburn that the costs shown in Exhibit B are significantly lower than the costs routinely paid by CLECs and CATVs for the same or similar work.⁵⁰ CLECs and CATVs pay Duke Energy Progress for work based on estimates that are developed contemporaneously with performance of that work, while the charges in Exhibit B significantly understate the costs Duke Energy Progress actually incurs.⁵¹

⁴⁴ Per discussions with Mr. Freeburn.

⁴⁵ Per discussions with Mr. Freeburn.

⁴⁶ See Exhibit E-4.1.

⁴⁷ See Exhibit E-4.1.

⁴⁸ Similarly, I conservatively assumed Duke Energy Progress would have had to pay AT&T \$ [REDACTED] for virtually every JUA pole currently owned by AT&T. I understand from discussion with Mr. Freeburn that AT&T's costs to replace a non-JUA pole with a JUA pole would likely be a lower amount than for Duke Energy Progress, given that AT&T's equipment transfer costs, a significant component of the total cost, would be lower.

⁴⁹ See JUA, Exhibit B at ATT00108.

⁵⁰ See declaration of Mr. Scott Freeburn.

⁵¹ Mr. Mark Peters apparently does not recognize that the JUA Exhibit B rates are significantly lower than actual costs and states "[w]ith respect to make-ready, the executives said AT&T may be advantaged if it pays for make-ready performed by a Duke company based on a cost schedule containing pre-set cost estimates (i.e., standardized costs) instead of based on a per-project cost estimate (i.e., costs specific to a project)... There should be no cost difference between the two approaches and Duke Energy Progress never documented the existence of any difference." See Peters Affidavit ¶ 16 at ATT00043.

E. Other Selected Benefits

i. Assigning The Value Of The “Safety Space” And Implied Space Allocated To The Licensee

1. Safety Space

32. A minimum of 40 inches of space is typically required between Duke Energy Progress's electric facilities on a pole and any communications attachments.⁵² On Duke Energy Progress's joint-use poles, this safety space was initially required solely due to the presence of AT&T, and on AT&T's joint-use poles, the safety space is required solely due to the presence of Duke Energy Progress. I understand that under the terms of the JUA, the parties effectively agreed to more or less equally share the costs associated with all space on the pole other than the space to be otherwise occupied by the parties, including the safety space. Again, if both parties maintained ownership levels in parity with their respective percent of the combined rate from the JUA, neither party would pay the other party any annual net rental fees—including any amounts associated with safety space.⁵³ This is further confirmed by the implied cost sharing percentages from the agreed upon rental rates in the JUA.⁵⁴

33. From an economic cost-causation perspective, and under the current circumstances, it would be more equitable to allocate 100% of the safety space to the

⁵² See Federal Communications Commission, “Report And Order,” FCC 00-116, dated April 3, 2000 ¶ 20.

⁵³ See Exhibit E-5B.1

⁵⁴ The JUA rates reflect a $\frac{1}{2}$ % $\frac{1}{2}$ % parity of ownership between Duke Energy Progress and AT&T, respectively. The combined rate initially set forth in the current JUA was \$ $\frac{1}{2}$ (\$ $\frac{1}{2}$ + \$ $\frac{1}{2}$ = \$ $\frac{1}{2}$). For example, Duke Energy Progress's rate of \$ $\frac{1}{2}$ is $\frac{1}{2}$ % of the combined rate. The cost allocation is generally consistent with an appropriate and economically proper even split of the space which is unavailable for use by either of the parties. The following calculations demonstrate the even sharing of the cost of the unavailable space. On a standard joint use 40-foot pole, 27.33 feet is generally assumed to be unavailable for use (i.e., 6 feet underground, 18 feet to provide necessary ground clearance, plus 3.33 feet of “safety space”). Based on its pole rental rate, Duke is effectively paying for a total of $\frac{1}{2}$ feet of pole space ($\frac{1}{2}$ % of 40' = $\frac{1}{2}$), which includes one-half of the unavailable space (13.67') plus $\frac{1}{2}$ feet of usable space ($13.67' + \frac{1}{2} = \frac{1}{2}$). Similarly, AT&T is paying for its one-half share of the unavailable space (13.67') plus $\frac{1}{2}$ of usable space (i.e., $\frac{1}{2}$ % of 40' = $\frac{1}{2}$, subtracting the 13.67 of unusable space leaves $\frac{1}{2}$). These space allocations are generally consistent with the $\frac{1}{2}$ feet and $\frac{1}{2}$ feet of reserved space that were allocated to Duke Energy Progress and AT&T respectively in their 1977 JUA. See JUA, Article XIII at ATT00102 and “Agreement Covering Joint Use Poles” dated September 29, 1977.

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licensee. This alternative approach to allocating the cost of the safety space is justified since safety space is different than any other parts of the unallocated space on a joint use pole (e.g., buried space providing foundational support, space providing required height clearance from obstructions), all of which would need to exist even when there is only a single attacher.⁵⁵

34. Based on the above premise, on a JUA pole owned by Duke Energy Progress, AT&T requires more cumulative space than it pays for (and vice versa). If AT&T paid Duke Energy Progress for 100% of the safety space on Duke Energy Progress-owned poles, AT&T would owe Duke Energy Progress \$ [REDACTED] per year, or \$ [REDACTED] per pole for the safety space (i.e., this does not include amounts for the space actually used by AT&T on Duke Energy Progress's poles, which is discussed below).⁵⁶ After accounting for reciprocal benefits to Duke Energy Progress, AT&T's annualized net benefit is \$ [REDACTED], or \$ [REDACTED] per pole for the safety space.⁵⁷

35. I use the FCC's new telecom rate to allocate the costs of safety space to each party. I apply the new telecom rate in a way that is in parity with the formula used to calculate the cable rate (i.e., so that the rates paid under the new telecom formula are not materially different from the rates that would be paid by CATVs for the use of the same space). I understand that the FCC "sought to bring parity to pole attachment rates calculated using the telecom or cable rate formula so that all attachments rates would be at or near the cable rate formula."⁵⁸ The FCC's new telecom formula does result in a rate that is approximately equal to the cable rate, but only when the attacher is using 1 foot of space (i.e., 7.41% of pole costs for the cable rate, and 7.39% for the new telecom rate). That parity between the cable rate and new telecom rate is lost when the attacher uses even 1 additional foot of usable space, as shown in Exhibit E-7 and in Table 1 below.

⁵⁵ Given the increased level of pole ownership by Duke Energy Progress, and the fact that Duke Energy Progress installed taller poles with safety space solely to accommodate AT&T, it could be argued the cost sharing arrangement in the JUA does not provide an equitable result to Duke Energy Progress.

⁵⁶ See Exhibit E-5A.

⁵⁷ See Exhibit E-5A.

⁵⁸ See Federal Communications Commission, "Order On Reconsideration", FCC 15-151, dated November 24, 2015 ¶ 2.

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Table 1
Percentage Of Annual Pole Costs Using FCC Cable (CATV)
& New Telecom (CLEC) Formula⁵⁹

	Cable Rate (CATV)	New Telecom Rate (CLEC)
1 Foot Of Space	7.41%	7.39%
2 Feet Of Space	14.82%	9.15%

36. In order to apply the FCC's new telecom rate formula in a way that does not disadvantage a CATV, I use the FCC's new telecom rate for the use of 1 foot of space and multiply it by the amount of space used. For example, if a telecommunications company uses 2 feet of space, I would use a rate equal to 14.78% of annual pole costs (i.e., 7.39% * 2 feet), which is approximately equal to the cable rate of 14.82% for the same space. Again, to apply the new telecom rate in any other manner would be inconsistent with the FCC's apparent intent to ensure pole costs are equitably allocated to each attacher based on the amount of pole space used.

37. As mentioned above, safety space is required between Duke Energy Progress and any other communications attacher, including CLECs and CATVs. However, the FCC's formulas for calculating the rates charged to CLECs and CATVs do not allocate any portion of the safety space to the attaching entities or treat it as unusable space. If AT&T was permitted to pay a rate which did not incorporate any costs associated with safety space, Duke Energy Progress and its electric ratepayers would be bearing the entire burden of providing pole space required only because other entities are attaching to its poles.⁶⁰

⁵⁹ See Exhibit E-6 for more information.

⁶⁰ It is noteworthy that Mr. Rhinehart appears to allocate all safety space to Duke Energy Progress on Duke Energy Progress and AT&T owned poles in his calculations in Exhibits R-1 and R-3. See Rhinehart affidavit, Exhibits R-1 and R-3 at ATT00013 and ATT00018.

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2. Implied Space Allocated To AT&T

38. As discussed above, the current JUA does not explicitly allocate the usable space between Duke Energy Progress and AT&T; however, there is an implicit allocation of this space calculated through the rental rates in the agreement. I calculated the value to AT&T for the use of the implied [REDACTED] feet of space based on the same rate methodology discussed above.⁶¹ I also calculated the reciprocal benefits to Duke Energy Progress, for the [REDACTED] feet of implied space allocated to Duke Energy Progress on AT&T's poles.⁶² AT&T's annualized benefit totals approximately \$ [REDACTED], or \$ [REDACTED] per pole.⁶³ After accounting for reciprocal benefits to Duke Energy Progress, AT&T's annualized net benefit is \$ [REDACTED], or \$ [REDACTED] per pole (i.e., this is in addition to the amounts for safety space calculated in the previous section).⁶⁴

V. Other Considerations Regarding AT&T's Contention That It Should Be Entitled To The Same Pole Attachment Rates That CLECs And CATVs Currently Pay

A. Benefit Of Incumbent Position

39. The space provided to AT&T on JUA poles is a significant benefit that CLECs and CATVs do not enjoy. For example, consider a geographic area with existing Duke Energy Progress-owned JUA poles without any CLEC or CATV attachments. If AT&T and a CLEC or CATV both decide to service that geographic area, AT&T is able to service that market more quickly compared to CLECs or CATVs for numerous reasons, which include those identified in Table 2.

⁶¹ I understand other entities are not permitted to attach within 1 foot of AT&T's existing attachments. I did not include this additional 1 foot of space in my analysis.

⁶² See Exhibit E-5B.1.

⁶³ See Exhibit E-5B.

⁶⁴ See Exhibit E-5B.

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Table 2
Selected Points Regarding CLEC And CATV Access,
As Compared To ILEC Access To JUA Poles⁶⁵

Description	CLECs and CATVs	ILEC
Permitting	Prior to attaching to Duke Energy Progress's poles, the CLEC or CATV must: (1) submit an application requesting permission to attach to or make use of each such pole; (2) receive authorization to attach; (3) pay the make ready costs. ⁶⁶	Not required to seek permission or receive approval by Duke Energy Progress to use space on a joint use pole.
Duke Energy Progress Inspection	CLECs and CATVs must wait (and pay for) Duke Energy Progress to perform inspections prior to and after the CLEC or CATV installs its attachment.	Duke Energy Progress does not perform pre- or post-inspections for AT&T's attachments. Accordingly, AT&T has immediate use of joint use poles.

40. The amount of time required to deploy new telecommunications services in a specific market can vary significantly for myriad reasons. However, for reasons including those identified above, it is reasonable to assume that AT&T would require less time to service a market as part of a JUA compared to a CLEC or CATV.

41. It is a well understood business concept that being "first to market" with a product or service can provide significant economic benefits, all other things being equal. For example, it has been reported that "in most cases, being first to the market provides a significant and sustained market-share advantage over later entrants."⁶⁷

⁶⁵ Per discussions with Mr. Freeburn.

⁶⁶ See example CLEC license agreement, Section 3 at ATT00126.

⁶⁷ See Business+Strategy Magazine article, "Market Entry Strategies: Pioneers Verses Late Arrivals," dated July 1, 1998.

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42. Google Fiber presents an interesting and relevant case example. In February 2010, Google announced that it was planning to build high-speed broadband networks in locations across the United States.⁶⁸ However, by October 2016, it was reported that Google decided to halt its plans to expand to additional cities due in part to competition from “[b]ig incumbents.” Specifically, Google faced challenges competing with “large, established broadband providers who were already there or could benefit from regulations that raised the bar for new entrants.”⁶⁹

43. In July 2018, Google issued an update related to its Google Fiber service, indicating “[w]hen we started Google Fiber eight years ago, we knew that building a new fiber network was going to be hard, slow and expensive. But what we didn’t fully appreciate were the obstacles we would face around a key part of the process: *gaining timely access to space on utility and telephone poles* to place new communications equipment.”⁷⁰ [emphasis added]

44. Given the expanding role of information technology in the global economy and the substantial financial value that successful businesses in related sectors can create and obtain, it is reasonable to assume that incumbent telecommunications carriers not only participate but aggressively pursue opportunities to leverage the benefits of their incumbency which are afforded to them under joint use agreements. Currently, I do not have sufficient information to estimate a value to AT&T of this benefit of “incumbency.” However, given the typical monthly rates charged to customers for broadband services, the value of any incremental market share which can be attributed to incumbency is likely significant.

B. Incremental Carrying Costs

45. Duke Energy Progress incurs carrying costs to maintain its system of poles. The greater the investment in its pole network, the greater the carrying costs incurred. Duke

⁶⁸ See Google article, “Think Big With A Gig: Our Experimental Fiber Network,” dated February 10, 2010.

⁶⁹ See Washington Post article, “Why Google Fiber Is No Longer Rolling Out To New Cities,” dated October 26, 2016.

⁷⁰ See Google article, “FCC Supports OTMR – Faster and Fairer Rules for Pole Attachments,” dated July 13, 2018.

PUBLIC VERSION

Energy Progress has incurred, and continues to incur, substantially greater carrying costs by installing a system of taller and stronger poles to accommodate AT&T's attachments. As noted above, absent the JUA, Duke Energy Progress would have installed poles only tall enough to accommodate Duke Energy Progress's own attachments.⁷¹ As a result of the JUA, to accommodate AT&T's attachments, I understand that Duke Energy Progress procured and installed poles generally 5 to 10 feet taller than it would have otherwise.

C. Avoided Security Deposit Costs

46. I understand that CLECs and CATVs are required to provide a "cash deposit or irrevocable letter of credit...to guarantee Licensee's payment in full of all Attachment Fees and other amounts payable to [Duke Energy Progress]."⁷² Without the benefit of the JUA, AT&T would have also been required to provide this deposit as it attached to Duke Energy Progress's poles. AT&T would have been required to provide approximately \$7.5 million in the form of cash or a letter of credit to Duke Energy Progress for the 148,064 poles it is attached to.⁷³ Such a deposit or letter of credit would of course result in ongoing costs (e.g., fees associated with a letter of credit or the opportunity cost on restricted funds at AT&T's cost of capital).

47. Whether a cash deposit or letter of credit, AT&T would incur ongoing time value of money and other costs (e.g., letter of credit fees, opportunity cost on use of funds at AT&T's cost of capital)

⁷¹See declarations of Mr. Steve Burlison and Mr. Scott Freeburn.

⁷² See example CLEC license agreement, Section I at ATT00121.

⁷³ Exhibit C of the sample CLEC license agreement provides a schedule to determine the appropriate amount of cash or letter of credit that a licensee must provide based on total pole attachments. Per the exhibit, AT&T would be required to provide \$500,000 for the first 10,000 attachments and then \$50,000 for every 1,000 attachments thereafter. AT&T would have been required to pay the additional \$50,000 deposit 139 times (i.e., $148,064 - 10,000 = 138,064 / 1,000 = 138.064$ rounded up to 139). The total deposit AT&T avoided providing to Duke Energy Progress for its 148,064 pole attachments is \$7.5million (i.e., $\$500,000 + (\$50,000 * 139) = \$7.5$ million). See example CLEC license agreement, Exhibit C at ATT00142.

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VI. Response To Selected Points In Dr. Dippon's Affidavit

48. AT&T's complaint included an affidavit by Dr. Christian Dippon, a managing director at NERA Economic Consulting.⁷⁴ As he has done in other similar matters, he generally opines that the cost sharing rates pursuant to the JUA are not just and reasonable and not competitively neutral, that Duke Energy Progress has abused its position as owner of a large majority of poles, and that the use of the FCC's new telecom rate will ensure competitive neutrality.⁷⁵ However, AT&T of its own accord started out of parity and has never attempted to achieve parity in pole ownership and alleviate this supposed imbalanced bargaining power.

49. Dr. Dippon does not provide any substantive analysis supporting his opinions, nor does he appear to have fully thought through certain of his opinions. For example, he appears to argue that AT&T and Duke Energy Progress receive the same economic benefits under the JUA for avoided permitting costs, and therefore AT&T receives "no *net* benefits."⁷⁶ Surprisingly, he does not acknowledge that Duke Energy Progress's significantly greater pole ownership results in AT&T receiving the great majority of any "reciprocal" benefits for avoided permitting fees.

A. Duke Energy Progress Does Not Enjoy Or Exercise "Bargaining Power" Due To Pole Ownership Disparity

50. Dr. Dippon claims, "Duke Energy Progress has been able to impose and retain unjust and unreasonably high rental rates on AT&T because of the bargaining power it enjoys by virtue of the significant and increased disparity in pole ownership as well as by the lack of competition it faces."⁷⁷ However, Duke Energy Progress's actions do not appear to support this claim.

⁷⁴ See Dippon Affidavit ¶ 1 at ATT00050.

⁷⁵ See Dippon Affidavit ¶ 5 at ATT00052.

⁷⁶ See Dippon Affidavit ¶ 41 at ATT00072-73.

⁷⁷ See Dippon Affidavit ¶ 29 at ATT00065.

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51. Duke Energy Progress has maintained a substantial majority of joint use poles since the inception of the preceding JUA and yet the JUA formula has not changed since 2000, when the parties mutually agreed that the rental rate would be adjusted each year by the percent change of the Handy Whitman index.⁷⁸ This means that the rental rate will essentially remain unchanged as the Handy Whitman index simply calculates the cost trends for different types of utility construction.⁷⁹ Additionally, the perpetual license provision in the JUA precludes Duke Energy Progress from ever removing AT&T's attachments. This fundamental constraint effectively obviates any real or perceived bargaining power that might otherwise come with increased pole ownership. As mentioned above, the perpetual license provision states that at any time, either party can terminate the JUA with respect to the right to make *additional* attachments, however, "[a]ny such termination of the right to make additional Attachments shall not, however, abrogate or terminate the right of either party to maintain the existing Attachments on the poles of the other and all such existing Attachments shall continue to and in accordance with the terms of this Agreement."⁸⁰ As a result, under the contract, even if Duke Energy Progress were to attempt to exercise any existing bargaining power, AT&T could terminate the JUA and perpetually enjoy exactly the same terms, conditions and benefits afforded to AT&T by the JUA for all of its attachments on JUA poles existing at the date of termination.

52. Dr. Dippon does not address the perpetual license provision in the JUA, and nor does he provide a single example of how Duke Energy Progress has allegedly used its increased pole ownership as leverage in past or ongoing rate negotiations with AT&T. Nor does he offer an example of how Duke Energy Progress might use its bargaining power if Duke Energy Progress believed it had any such power and actually chose to do so.

⁷⁸ In 1987, Duke Energy Progress owned 100,755 poles and AT&T owned 33,628 poles. $100,755 / (100,755 + 33,628) = 75\%$. (See Exhibit 7 to AT&T's Pole Attachment Complaint at ATT00201.) In 2019, Duke Energy Progress owned 148,064 poles and AT&T owned 30,598 poles. $148,064 / (148,064 + 30,598) = 83\%$. (See Duke Energy Progress Invoices To AT&T dated December 4, 2019 at ATT00163 and ATT00167.)

⁷⁹ See WRA's description of the Handy Whitman Index at <https://vrallp.com/about-us/handy-whitman-index>

⁸⁰ See JUA, Article XVII at ATT00104.

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B. Allocation Of Pole Costs Under The JUA Is Reasonable

53. Dr. Dippon claims that because of the JUA rate allocation, “AT&T pays much more than Duke Energy Progress does on a per-foot basis.”⁸¹ However, I understand that the JUA cost sharing rental rates were contemporaneously negotiated and agreed to by both parties. As discussed earlier, the JUA cost sharing rates appear to reflect a presumptive allocation of usable space on a typical 40-foot JUA pole (i.e., [REDACTED] feet for AT&T and [REDACTED] feet for Duke Energy Progress), and an equal sharing of the remaining, unallocated space. AT&T uses considerably more than 1 foot of space on an average JUA pole. In fact, AT&T is paying for [REDACTED] feet of usable space, while using [REDACTED] feet of space on the average joint use pole.⁸²

C. Dr. Dippon’s Calculation Of Third-Party Rent Is Flawed

54. As explained earlier, the cost sharing percentages under the JUA between Duke Energy Progress and AT&T are [REDACTED]% and [REDACTED]%, respectively.⁸³ Dr. Dippon opines that Duke Energy Progress is actually paying less than [REDACTED]% of the costs for the poles it owns on account of offsetting fee revenue it collects from CLEC and CATVs.⁸⁴ In an illustration, he uses several unrealistic and unsupported assumptions—most importantly the number of third-party attachers. He assumes there are five attachers per pole, when in fact Duke Energy Progress joint use poles have an average of less than [REDACTED] attachers (including Duke Energy Progress).⁸⁵

⁸¹ See Dippon Affidavit ¶ 30 at ATT00066.

⁸² The average height of AT&T’s highest attachment on Duke Energy Progress’s poles is [REDACTED]. This is [REDACTED] feet above the minimum ground clearance requirements, 18’ (i.e., [REDACTED] – 18’ 0” = [REDACTED] = [REDACTED]). See Duke Energy Progress’s interrogatory responses, dated October 14, 2020.

⁸³ See JUA, Article XIII at ATT00102.

⁸⁴ If Duke Energy received approximately 7.4% of pole costs from each of three other attachment entities on every joint use pole, it would recover approximately 22.2% of costs in fee revenue, and its net costs would decrease from [REDACTED]% to [REDACTED]% (i.e., [REDACTED]% minus 22.2% = [REDACTED]%). See Dippon Affidavit ¶ 32 at ATT00067.

⁸⁵ See Duke Energy Progress’s interrogatory responses, dated October 14, 2020.

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D. So-Called “Reciprocal Benefits” Under The JUA Do Not Net To Zero

55. Dr. Dippon asserts that “a proper analysis of benefits must also consider the reciprocal benefits that Duke Energy Progress receives from AT&T as part of the JUA.”⁸⁶ Dr. Dippon uses permitting fees as an example and states that if AT&T were to receive benefits from avoided permitting fees, “it is de minimis and does not result in net benefits because AT&T extends the same permitting benefit to Duke Energy Progress, therefore resulting in no *net* benefits.”⁸⁷ This view seems particularly surprising, as it appears to suggest he believes AT&T’s use of 148,064 Duke Energy Progress-owned poles is of equivalent economic benefit to the 30,598 of AT&T-owned poles used by Duke Energy Progress.⁸⁸ If Duke Energy Progress and AT&T each owned a percentage of poles equal to the allocation of rental rates in the JUA, neither party would pay any recurring rental amounts under the JUA. However, assuming the monetary benefit on a “per pole” basis is the same for AT&T as it is for Duke Energy Progress, the fact that Duke Energy Progress owns 82.9% of the joint use poles simply means AT&T is receiving significantly more “net benefits.”⁸⁹

E. AT&T Uses More Than 1 Foot Of Space

56. Dr. Dippon claims “Duke Energy Progress requires almost triple the space on the pole because all four communications attachers presumptively attach within 3 feet of usable space, which leaves 10.5 feet of usable space for the electric utility.”⁹⁰ He does not provide any independent support for this statement. I understand that actual data from Duke Energy

⁸⁶ See Dippon Affidavit ¶ 41 at ATT00072.

⁸⁷ See Dippon Affidavit ¶ 41 at ATT00073.

⁸⁸ Mr. Peters makes a similar argument to Dr. Dippon stating that “AT&T cannot receive a ‘net advantage’ over its competitors if it must afford to Duke Energy Progress each and every alleged ‘benefit’ that it receives. This is so because the unique cost to AT&T from providing that alleged ‘benefit’ cancels out any unique value from the alleged ‘benefit’ that it receives, leaving a net value of zero.” See Peters Affidavit ¶ 26 at ATT00048.

⁸⁹ $(148,064 \text{ Duke Poles} / (30,598 \text{ AT\&T Poles} + 148,064 \text{ Duke Poles})) = 82.9\%$ poles owned by Duke Energy Progress. See Exhibit E-1 for examples of my quantification of reciprocal benefits that do not net to zero.

⁹⁰ See Dippon Affidavit ¶ 32 at ATT00067.

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Progress personnel indicate that, rather than 1 foot, AT&T actually uses an average of [REDACTED] feet of space on Duke Energy Progress poles.⁹¹

F. Benefits Quantified Take Into Account Average Per Pole

57. Finally, Dr. Dippon argues that “if a benefit were to be found, it would likely apply to only a small number of poles and/or be a temporary benefit.”⁹² He appears to misinterpret the benefits of the JUA. Duke Energy Progress is not suggesting the benefits exist for every pole every year. As shown in Section IV.B, my quantifications of benefits calculate an average annualized cost per pole, which does not assume the costs are incurred every year, but translates the benefits, which may be one-time costs, into an annualized average cost.

VII. Conclusion

58. AT&T receives significant benefits under the JUA, which CLECs and CATVs do not under their respective agreements. In accordance with the JUA cost sharing formula, Duke Energy Progress charged AT&T in 2019 approximately \$ [REDACTED] per pole.⁹³ As indicated in Exhibit E-1, the JUA provides AT&T with benefits that vastly exceed AT&T's costs. This result is, of course, expected since AT&T is sharing the cost of a single pole network rather than having to build and operate its own.

⁹¹ See Duke Energy Progress's interrogatory responses, dated October 14, 2020.

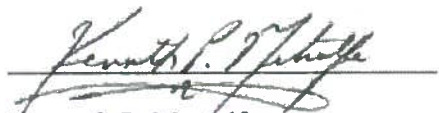
⁹² See Dippon Affidavit ¶ 44 at ATT00074.

⁹³ See Duke Energy Progress Invoices To AT&T dated December 4, 2019 at ATT00163 and ATT00167.

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Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the facts set forth in this declaration are true and correct to the best of my knowledge, information, and belief.

Executed on the 12 day of November 2020.

A handwritten signature in black ink, appearing to read "Kenneth P. Metcalfe", is written over a horizontal line.

Kenneth P. Metcalfe

Partner, HKA

Co-CEO, Kenrich Group LLC | An HKA Company



CURRICULUM VITAE

KENNETH P. METCALFE**PARTNER, HKA****CO-CEO, KENRICH GROUP LLC, AN HKA COMPANY****QUALIFICATIONS**

Georgetown University; Bachelor of Science in Business Administration, *Cum Laude*; Accounting major with concentrations in Economics, Finance, Auditing, and Statistics

MEMBERSHIPS

American Institute of Certified Public Accountants
 Association of Certified Fraud Examiners
 Greater Washington Society of Certified Public Accountants
 National Association of Certified Valuators and Analysts
 Virginia Society of Certified Public Accountants

CERTIFICATIONS

Certified Public Accountant
 Certified Valuation Analyst
 Associate Certified Fraud Examiner

PROFILE

Kenneth Metcalfe has more than 38 years of experience consulting on financial, accounting, and economic damages matters in numerous areas, including aerospace, biotechnology, fraud and money laundering investigations, nuclear and fossil fuel generation, financial institutions, construction, manufacturing, and government contracts. (He is the "Ken" in Kenrich).

Ken has analyzed accounting and economic issues in various types of disputes, including alleged breach of contract, patent infringement and trade secret misappropriations. Damages addressed include business lost profits, price erosion, increased costs, delay and disruption, lost value, and other business interruption impacts, including the valuation of lost royalties. He has also performed detailed forensic analyses and historical cost reconstructions, as well as advised clients in the area of evaluating the economics related to significant alternative investments.

Ken has provided expert testimony on economic damages and other issues in various forums, as well as assisted clients, counsel and other experts in deposition and trial testimony and in alternative dispute resolution proceedings. He has also participated in mediations and in extensive settlement negotiations on various matters. He has testified numerous times in federal, state and local courts, in state regulatory proceedings, and in US and international arbitration.

CURRICULUM VITAE
KENNETH P. METCALFE

Ken has provided other consulting and accounting services, including analysis of cost allowability and allocability, as well as the propriety of business decisions, such as least cost option and life cycle cost analyses.

Client Responsibilities

Ken is responsible for numerous client assignments in a variety of areas, including commercial contract disputes, regulated industry cost analysis, fuels-related cost analysis, fraud investigations, construction claims, intellectual property disputes, valuations, supplier claims, business interruptions, and terminations for convenience and default. His clients have included electric utilities, construction companies, biotechnology companies, aerospace companies, financial institutions, architect engineers, project owners, government contractors, computer software and hardware developers, manufacturers, telecommunications companies, an accounting oversight organization and various government and quasi-government entities.

SELECTED EXPERIENCE

ECONOMIC, OPERATIONAL AND DAMAGE ANALYSIS AND GENERAL BUSINESS CONSULTING

Performed analyses of claims, financial statements and financial projections, accounting and auditing standards, contracts, policies and procedures and project cost and scheduling issues. Work has included planning, implementing, and supervising the analyses and other tasks to be performed on matters, leading teams from several to more than 50 people. Assignments have included performing detailed work for numerous in-house and outside counsels, company management and other personnel, accounting and auditing firm personnel, as well as other consultants and fact and expert witnesses.

Analyzed the financial condition of corporations, partnerships and sole proprietorships and performed economic damage analyses under a variety of circumstances, including intellectual property disputes, valuations, regulatory matters, commercial breach of contract, contract termination, business interruption, fraud investigations, personal injury, discrimination and wrongful death.

Prepared and analyzed claims for increased direct and allocated indirect costs due to numerous factors, including changed work, differing site conditions, delay and disruption, defective specifications and acceleration.

Performed valuations of various assets and businesses, including securities, receivables, real estate, partnership interests, service businesses, market segments, franchises, oil and gas properties and electric utilities.

Analyzed financial transactions and performed extensive funds tracing and other forensic accounting work on a variety of assignments, including commercial damage matters and investigations of alleged fraud.

Performed various analyses that have involved developing economic models reconstructing and analyzing financial data and operating information.

Addressed the use, propriety and economic implication of overall cost and pricing indices, as well as the weighting of indices in various scenarios, including life cycle cost analyses, the potential re-powering of electric generation facilities, and for capital projects and decommissioning-related costs associated with generating plants in the U.S. and internationally.

Assisted clients and counsel in general direct and indirect cost determination studies; the preparation and evaluation of least-cost project comparison models, including life cycle cost analysis; incorporating the

impacts of long-term and spot market fuel prices; the selection, development and operation of information management systems and a variety of document and other information databases.

REGULATED INDUSTRIES

Consulted on numerous utility matters in the electric, water, and telecommunications industries. Work has included direct and indirect cost and accounting studies, disputes involving nuclear, fossil fueled, geothermal, biomass, solar, and hydroelectric power plants, relating to such issues as prudence investigations, construction management, replacement power costs and the impacts of alternative fuel assumptions, cost allocations and the rate making process. Work has involved preparation and analysis of claims for more than three dozen utilities throughout the US and internationally and has included increased costs, lost sales and other claims related to over fifty nuclear plants.

Consulted on the proper costs to be included by the US Department of Energy regarding its charges to public utilities for nuclear fuel enrichment, as well as cost claims for numerous utilities regarding the disposal of spent nuclear fuel. Prepared first significant utility claim against the Department of Energy for increased costs related to spent nuclear fuel, ultimately leading to settlement with the government. Has since represented nuclear utilities in matters for over twenty nuclear power plants related to the "Standard Contract" with the Department of Energy and the economic damages related to the Department's obligation to accept spent nuclear fuel from US commercial nuclear reactors.

Provided consultation related to utility operation and maintenance costs, as well as the examination of utility missions, objectives, organization, policies, procedures and controls.

Consulted on prudence investigations of nuclear power plants, including the underlying causes of and amounts for direct and indirect cost increases and schedule delays, replacement power costs and the proper methods for assessing and supporting the cost of particular impacting events and activities, including the specific identification of direct costs and indirect cost allocation methodologies.

Consulted on the preparation and evaluation of damage claims related to increased costs, as well as defective equipment and plant operating procedures, including direct and consequential impacts.

Developed models and consulted to utilities and government agencies regarding decisions related to electric generation resources, such as the cost evaluation of alternative power plants, incorporating life cycle cost analysis with concentration on alternative fuels and their related costs under different short- and long-term delivery structures. Models have included appropriate cost and pricing indices to properly address the impact of time on equipment, material and labor costs.

SECURITIES-RELATED, FORENSIC ACCOUNTING, FRAUD AND OTHER INVESTIGATIONS

Reconstructed historical financial information and performed forensic analyses of alleged money laundering and other fraudulent transactions, including those related to companies and individual executive management personnel. These engagements have included those involving the detailed analysis of tens of thousands of account transactions over multi-year periods and through multiple entities and accounts to determine the structure and propriety of funds inflows and outflows.

Assisted in investigating various allegations regarding company management, including the misappropriation of company assets and willful fraudulent transactions committed against the government.

Performed detailed transaction reviews related to alleged embezzlement, check kiting and other illegal accounting schemes, fraudulent invoicing schemes and alter ego analyses.

Investigated the compliance with detailed contractual terms related to the recording of transactions, recognition of revenue and costs. Related analyses have included forensic investigations of thousands of transactions to assess allegations of intentional circumvention of contractual requirements and other obligations. Investigations have included the use of complex computer databases and models, as well as hard-copy records.

Assisted counsel in understanding and applying Generally Accepted Accounting Principles and Generally Accepted Auditing Standards in the context of business disputes, fraud investigations, accounting reconstructions and other forensic analyses. Examples include the application of various standards, including materiality, risk assessment, commonality, accumulating and evaluating sufficient documentary evidence, adequate disclosures, and adequate training and professional care, as well as actual and perceived independence.

Analyzed financial transactions and performed funds tracing and other forensic accounting work on a variety of assignments, including commercial damage matters, analyses of regulated industries and investigations of alleged fraud.

Prepared and implemented detailed work programs for tracing transactions to detailed supporting documents, "auditing" costs allegedly incurred, as well as testing compliance with the financial and accounting related requirements of agreements.

Performed numerous interviews of company executives and employees, accounting firm personnel, company customers and competitors and others to obtain information in the context of fraud investigations and other disputes.

Assisted national accounting oversight organization in reviewing and evaluating several international public accounting firms' systems, procedures and internal controls relating to independence. Helped perform research on certain accounting and SEC issues in their relationship to independence regulatory requirements. Acted as an advisor to counsel regarding independence-related issues to assist in communications among counsel, the accounting oversight organization, the accounting firms and the SEC. Assistance included developing and drafting detailed work programs for use during the independence reviews.

INTELLECTUAL PROPERTY

Calculated lost profits and other damages resulting from potential infringement of patent, trade secret and proprietary agreement rights. Example matters in this area have included those involving software licensing and royalty issues, pharmaceutical market penetrations, nuclear technology and steam reforming high temperature waste destruction and processing, as well as government contracting in the aerospace industry.

Analyzed direct and indirect labor and other operating cost structures and considered mitigation efforts during alleged infringement periods.

Analyzed the impact on damages of various interpretations of what products and/or processes were protected as intellectual property.

Analyzed the economic damages resulting from the loss of particular clients and customers due to alleged patent and trade secret infringement and misappropriation, based on analyses of similar clients and customers, as well as other previous company experience.

Analyzed financial, technical and production capacity and the feasibility and cost of potential add-on capacity in connection with the calculation of lost profits.

Performed reasonable royalty analysis considering potential licensor and licensee projections and expectations regarding the level and profitability of future work and required investment, as well as applicable Georgia Pacific, Honeywell and other factors. Analyzed the projected incremental benefit from intellectual property by comparing expected licensee profit margins on products using intellectual property to profit margins on products that did not utilize intellectual property.

CONSTRUCTION AND GOVERNMENT CONTRACTING

Performed analyses of financial statements and projections, contracts, auditing standards, policies and procedures and project cost and scheduling information for a variety of construction-related entities and projects.

Experience has encompassed numerous types of major construction projects, including nuclear, fossil fueled power plants, multi-unit housing projects, wastewater treatment plants, commercial and office buildings, liquid natural gas tankers, as well as ship, aircraft and simulator construction.

Analyzed and prepared claims relating to contracts, including assessment of formal and constructive change orders and the impact of delays, disruptions, defective specifications, differing site conditions, inefficiencies and accelerations.

Reviewed and analyzed various cost and schedule issues, as well as contract administration matters, including avoidance of disputes, appropriateness of contractual terms and conditions, and improvement of management procedures and controls.

Analyzed original scope project costs, contract additions, changes and associated payments.

Assisted numerous clients on a variety of government contracting-related issues, including the determination of damages on commercial disputes arising from government contracts, such as increased cost and lost profits damages resulting from contract breach or termination (for convenience and default); regulatory consulting on compliance issues; the review and preparation of claims for changed work, delay and disruption; and consulting on forensic accounting and funds tracing matters (e.g., alleged false claims, improper cost charging and improper billings.)

TESTIMONY AND ALTERNATIVE DISPUTE RESOLUTION EXPERIENCE

Testified numerous times as an expert witness in various forums, including bench and jury trials in federal and state courts, as well as the Court of Federal Claims. Testimony has also been provided in state regulatory proceedings and in alternative dispute forums, including US and international arbitration.

Testimony has covered accounting, economics, finance and economic damages issues in matters including breach of contract and business interruption, lost profits, reasonable royalties, direct and indirect increased cost claims, regulated industry issues, property damage, construction matters, contract claims and business management and operations.

Actively participated in numerous settlement negotiations presenting accounting, economic and business operations analyses and assisting in developing alternative methods for dispute resolution. Those services have been provided on a variety of matters, including for example, an international matter assessing the impact of alternative fuels and operating and maintenance costs for the potential repowering of an international nuclear-powered electric generating plant.

Addressed ability-to-pay issues, including those in the context of settlement discussions, by analyzing financial statements, cash flows and other business and accounting records.

Prepared numerous other expert witnesses for testimony, as well as for participation in various alternative dispute resolution and negotiation forums.

SELECTED LECTURES AND SEMINARS

Provided instruction on the preparation and analysis of claims and accounting practices to graduate students, construction executives and attorneys. For example, Ken has lectured on various economic damages-related issues to graduate students at Stanford University's Construction, Engineering and Management Program. Ken has also taught to graduate students at the George Washington School of Business regarding the preparation and analysis of economic damages claims related to government contracts, as well as in the private sector. Additionally, he has had extensive involvement related to cost issues in the Trial Advocacy Program sponsored by the Public Contracts Section of the American Bar Association. He has also presented to various attorney forums, as well as to project owners, contractors and financiers at the annual Forbes Conference in New York.

LANGUAGES

English (native)

PUBLIC VERSION

EXHIBIT E-1
(Confidential-Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-2
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-2.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-3
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-3.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-3.2
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-4
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-4.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-4.2
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5A
(Confidential – Withheld from Public Version)

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EXHIBIT E-5B
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5B.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5.2
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-5.2.a
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-6
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-6.1
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-7
(Confidential – Withheld from Public Version)

PUBLIC VERSION

EXHIBIT E-8
(Confidential – Withheld from Public Version)